Belting 101

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Preface and Notes

Asteroid prospecting and mining, commonly known as "Belting", is one of the common Traveller activities, present both at the background of adventures (as part of spaceside industry) and as an activity carried out by player characters who seek their fame and fortune (either temporarily or as an ongoing venture) in the planetoid belts of known space. While two Traveller rule systems concerned with Belting activity have been published so far – *BeltStrike* and an article in *JTAS* #3 – these rules are not always accessible to the Traveller player or referee; furthermore, the player or referee who engages in occasional Belting might want a simple yet solid system that addresses the main aspects of Belting without over-encumbering the player with rules. The system presented here uses the **BITS** task system, published in *Stellar Reaches* #3, page 5.

What does a Belter need?

In order to prospect a planetoid belt, a character needs a spaceship or starship (preferably one equipped with a good computer, and therefore high-quality sensors) with enough fuel and life support supplies for the expedition's duration; some star systems also require belters to posses a belting license. The interplanetary journeys involved in such expeditions require only the use of the ship's power plant and maneuver drive, consuming fuel according to the formula presented in LBB2 p.15 or High Guard p.27. Life Support supplies cost Cr1,000 per person per week, and any supplies beyond 2 weeks per stateroom require the allocation of cargo space, at 0.005 dTons per person per week. If a relatively small ship is used (such as a small craft, a Scout/Courier or a Seeker), a single person (possessing the Pilot or Ship's Boat skill required to use the ship as well as the Prospecting skill) can

Mining requires a spacecraft or starship armed with at least one Pulse Laser, as well as workers and/or robots to perform the actual mining work; each Human miner must be equipped with a Vacc Suit (LBB1 p.41), oxygen supplies (and/or an umbilical connecting his suit to the ship's life support system) and a Mining Laser; robots require only a Mining Laser (given below).

Refining the ore requires a Processing Bay to be installed on a ship (400 dTons, MCr250, 40 workers, and, if High Guard is used, 10 EPs).

Belting Licenses

The Referee decides whether or not the star system requires a license to mine its asteroid belt. If random determination is desired, throw Law Level or more on 2D to require a license. Obtaining a license is a **Standard (Admin/SOC)** task, DM -4 if the mainworld's Law Level is 8+; DM +4 if the mainworld's Law Level is 2-. Alternatively, bribing an official to get such a license is a **Difficult (Bribery/SOC)** task; obtaining it through underworld channels is a **Standard (Streetwise/INT)** task. A license costs 100x3d6xL Credits (where L is the main world's law level) in fees and taxes and is valid for a year; underworld costs are 100x5d6xL Credits, and bribery should be done by offering Cr500 per Law Level to the official.

Find a Rock, Any Rock

Just finding an asteroid of some kind is easy (**Routine (Prospecting/EDU or Survey/EDU)**) - there are literally billions of them in any belt; the problem is finding one which is profitable enough for a freelancer to claim and/or mine. Keep in mind that the corporations don't have any problem finding a silicate-rich Chrondite rock, for example, for their spaceside industry, and won't usually pay for such a claim; they will, however, pay well for the location of an asteroid containing rare elements, such as radioactives, gold, diamonds or complex organics.

Prospecting the Belt

Finding a possibly profitable asteroid is a **Challenging (Prospecting/EDU)** task (Survey minus one level could be used instead of Prospecting); DM +half the ship's Computer rating, rounded up (i.e. Model/1, Model/1bis, Model/2 and Model/2bis give +1 DM; Model/3 and Model/4 give a +2 DM and so on, treat "fib" or "bis" as their base model). One roll is allowed per day. If a Spectacular Failure has occurred, a minor collision (with a very small meteorite) has occurred due to a navigational error - roll once on the LBB2 normal hit location table (or the *High Guard* Surface Explosion table with a DM of +6); a Spectacular Success leads to a chance for a special find, see below.

To determine the find, throw 1d6+Prospecting (max Prospecting DM +4) on the following table:

Table 1: Prospecting Finds

Throw	Find	Size (dTons)	Value (Cr)	Sell DMs
1	Complex Organics*	1D6x10	10,000	NA-4, I+3, NI-5
2	Copper	2D6x100	2,000	I-3, R-1
3	Crystals	1D6x10	20,000	NA-3, I+3, R+3
4	Crystals	3D6x10	20,000	NA-3, I+3, R+3
5	Polymers	3D6x100	7,000	I-2, R+3
6	Tin	3D6x200	9,000	I-3, R-1
7	Tin	3D6x500	9,000	I-3, R-1
8	Silver	1D6x50	70,000	I+5, R-1
9	Rare Earths**	1d6x10	200,000	I-3, NI+4, R-1
10	Rare Earths**	1d6x10	200,000	I-3, NI+4, R-1

* Treat Organics as "Petrochemicals".
** Treat Rare Earth Elements as "Special Alloys".

On a Spectacular Success, roll 1D6 on the following table instead, without DMs:

Table 2: Spectacular Finds

Throw	Find	Size (dTons)	Value (Cr)	Sell DMs
1	Rare Earths*	1d6x100	200,000	I-3, NI+4, R-1
2	Gems	1D6x10	1,000,000	I-3, R-1
3	Radioactives	1D6x10	1,000,000	I+6, Ni-3, R-4
4	Silver	6D6x100	70,000	I+5, R-1
5	Salvage	Varies	Varies	Varies
6	Artifact	Varies	Varies	Varies

* Treat Rare Earth Elements as "Special Alloys".

Selling the Claim

Selling the claim to a corporation is handled according to LBB2's trade system, using the mainworld's Resale DM's; however, the belter receives only 5% of the full price for the claim. Selling mined raw ore (see below) gives 25% of the full price; refined materials are sold at the full price.

Landing on an Asteroid

Most asteroids have very weak surface gravity, making "landing" on them far more similar to docking with a starship than to landing on a heavier planet. Such "docking" is a Routine (Pilot/DEX or Ship's Boat/DEX) task and takes 3D6 minutes from a close solar orbit; failure means that the vessel has missed the rock and needs to retry "docking" with it (another 3D6 minutes). Taking off usually doesn't require a test.

Mining

Mining requires a ship or small craft with a pulse laser and several miners (humans or robots). The limiting factor is the miners, not the ship's lasers. Each miner much have a Portable Mining Laser and a Vacc Suit (robots don't need the vacc suit, of course). After the ship's Pulse Laser cuts the rock into

large chunks, the miners cut it into smaller chunks and load it unto the ship. A miner (human or human-equivalent robot) can mine and load 1 dTon (14 m³) of material in 4 hours; a miner could work up to 8 hours a day at full capacity; he could work 8 more hours, but will only extract half a dTon per 4-hour period (i.e. an exhausting 16-hour workday could produce 3 dTons). A robot never gets tired (and refueling takes only a few minutes per day) and thus produces (in the case of a small robot) 6 dTons in 24 hours. Ship crews put to use as miners receive their typical salaries (as in LBB2, p.11); hired miners are paid according to the local minimum wage laws, which (in the Solar Triumvirate universe) ranges from Cr2 per hour (in the Lydia Consortium) through Cr3 per hour (in the Solar Triumvirate) to Cr5 per hour (for unskilled labor in the Alliance) - the OTU's Imperium will probably use Cr3 per hour. Overseeing one day of human work (done by a skilled miner/supervisor) is a **Routine (Prospecting/INT)** task; supervising a day of robot work requires an additional a **Routine (Robot Ops/INT)** task.

For every 10 points of Apparent Strength a robot has, rounded down (see LBB8 pp.38-39), it can perform the work of one Human worker. That is, a robot with an Apparent Strength of 50 can mine 30 dTons in 24 hours! A single K'Kree could mine twice the amount of ore a Human could.

Refining the Ore

Refining the ore requires, for the very least, one Ore Processing Bay. Such a Bay requires 39 unskilled workers (or robots) and one supervisor with at least Mechanical-1 (as well as Robot Ops if the workers are robots); it is a **Routine (Mechanical/INT)** task for the supervisor to operate the Bay (roll once per day). A single Bay could process up to 200 dTons of ore per day.

Mining Lasers

Personal Mining Laser (12 kilograms, including power pack; Cr 6,000; TL9): A man-portable laser drill, similar to a laser rifle, used in asteroid mining. A Laser Rifle's power pack can power the Mining Laser for 20 minutes of continuous use; miners usually draw power to their lasers from their ship's power plant or from a portable generator in order to allow for longer periods of work between recharges. **Length:** 1200mm. **Weight of Mining Laser:** 8,000 grams. **Weight of Laser Rifle power pack:** 4,000 grams. **Base price:** Cr4,500 (extra power packs: Cr1,500). **Cost of recharge, at commercial rates:** Cr300. Power

When used as a component in LBB8 robot design, a Mining Laser Package has a volume of 16 liters, weights 16 kg, costs Cr6,000 and required 15 kW/H of power.

A Mining Laser used in combat uses the Laser Weapons skill and the Laser Rifle's stats, but causes 6D6 wounds; however, it can only attack targets in the Close and Short ranges. A Mining Laser could also be used to cut through walls, cutting a 1m by 1m hole through a weak wall (brick or wood) in one combat turn (15 minutes) of continuous operation, through a ship's interior wall in 5 combat turns (75 minutes) and through a ship's exterior or bulkhead wall in 50 combat turns (12 and a half minutes).